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Office Action

Patent Application Number: 181026/2001  
Drafting Date: July 14, 2003  
Examiner of the Patent Office: Takahiko Tooyama 9855 5J00  
Agent for the Applicant: Yasuo Sakuta  
Applicable Article: Paragraph 2 of Article 29, Article 36

The present application should be rejected for the following reason. If the applicant has an opinion on the examiner's reason for rejection, the applicant can file an argument within 60 days from the mailing date of this office action.

#### Reason for rejection

[1] The present application does not meet the requirements as set forth in Paragraph 5-2 and Paragraph 6 of Article 36 of the Patent Law for the following reason.

Claim 1 of the present application includes the following description: "the wavelength of said first optical supervisory signal or said second optical supervisory signal is out of the optical amplification range and such a wavelength that its transmission loss in a transmission line is virtually the same as transmission loss of an optical data signal." The expressions "out of the optical amplification range" and "such a wavelength that its transmission loss in a transmission line is virtually the same as transmission loss of an optical data signal" are abstract and do not show the wavelength range concretely. It is also unclear about which wavelength shown in the specification of the present application is relevant.

Therefore, Claim 1 does not include only the features indispensable for a constitution of an invention to be patented.

2. Because the inventions claimed in the following claims of the present application could be easily made before its filing by a person having common knowledge in the technical field of the inventions on the basis of the inventions disclosed by the following

publications distributed in Japan and abroad, they are deemed unpatentable in accordance with Paragraph 2 of Article 29 of the Patent Law.

(For cited references, refer to the list of cited references.)

- Claim 1
- Cited references 1 and 2
- Remarks

Reference 1 describes a supervisory information transfer method (optical fiber transmission line fault search system). The method includes the steps of: dividing (demultiplexing) an optical data signal (main signal  $\lambda_1$ ) as a wavelength-division multiplexed signal and a first optical supervisory signal (optical wavelength  $\lambda_2$  carrying all fault search current information) (demultiplexer 34); amplifying the demultiplexed optical data signal (digital regenerating repeater 19); converting the demultiplexed first optical supervisory signal into a first electric supervisory signal (optoelectric converter 44); converting the first electric supervisory signal into a second electric supervisory signal (amplifier 54, fault search current oscillator 14); converting the second electric supervisory signal into a second optical supervisory signal (optical modulator 64); and multiplexing the amplified optical data signal and the second optical supervisory signal (multiplexer 24).

As a result of comparison between the invention as claimed in Claim 1 of the present application and the invention described in Reference 1, the following differences have been found. While optical amplification is made in the invention claimed in Claim 1 of the present application, regenerating/repeating is performed in the invention described in Reference 1. Also, according to Claim 1, the wavelength of the optical supervisory signal is out of the optical amplification range and such a wavelength that its transmission loss in a transmission line is virtually the same as transmission loss of an optical data signal; on the other hand, Reference 1 has no such mention.

As pointed out above in [1], the expressions "out of the optical amplification range" and "such a wavelength that its transmission loss in a transmission line is virtually the same as transmission loss of an optical data signal" do not show the wavelength range clearly, but taking the specification of the present application into consideration, the supervisory signal wavelength range is considered to include 1.48  $\mu\text{m}$ .

Reference 2 describes a technique that a supervisory signal with a wavelength of 1.48

µm is used and an optical data signal is optically amplified. Therefore, a person skilled in the art can easily think of employing the technique described in Reference 2 in the invention described in Reference 1 and making the invention claimed in Claim 1 of the present application.

If a new reason for rejection is found, the applicant will be notified of it.

List of cited references

1. Japanese Unexamined Patent Publication No.083899/1982
2. Japanese Unexamined Patent Publication No. 022925/1992

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Record of prior art literature search result

Field of investigation: IPC Edition 7 H04B 10/00-10/28

H04J 14/00-14/08

Prior art literature: Japanese Unexamined Patent Publication No. 214936/1991  
Japanese Unexamined Patent Publication No. 270520/1991

This record of prior art literature search result does not constitute a reason for rejection.

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